

REMARKS

Claims 1-9 and 14-17 are pending in the above-identified application. Of these pending claims, claims 10-13 and 18-20 are withdrawn from consideration. Claims 1-9 and 14-17 are rejected in the current Office Action (“Office Action”). With this response, Applicants have amended claim 1 to recite “an upper sub-assembly, an intermediate skin, and a lower sub-assembly, wherein the upper sub-assembly includes a top skin, an upper core, and a lower skin, wherein the lower sub-assembly includes an upper skin, a lower core, and a bottom skin, and wherein the intermediate skin is formed by bonding the lower skin of the upper sub-assembly to the upper skin of the lower sub-assembly.” Support for the amendments to claim 1 may be found, for example, at least at page 3, lines 11-15 of the specification and in Figure 2. Claims 2-3, 7-8, and 17 have been amended to reflect the amendment to claim 1.

Applicants have also amended claim 16 with this response to note that the upper and lower sub-assemblies have different thicknesses. Support for this amendment may be found, for example, at page 3, lines 27-29 which notes that “each subassembly may have a thickness less than at least one of 350 mm, 300 mm, and 250 mm.” The specification further discloses that “the invention allows different table thicknesses to be produced from a stock of subassemblies of the same thickness or of a limited number of different thicknesses.” Specification, p. 3, l. 29- p. 4, l. 1. Figure 2 also shows an upper sub-assembly A having a different thickness than lower sub-assembly B. Accordingly, each of the upper and lower sub-assemblies recited in claim 1 may have a different thickness as recited in claim 16.

Finally, Applicants have amended claims 5-6 and 16-17 to recite a choice from a group of limitations. Claim 5 has been amended to recite “in excess of at least one of 310, 460 and 600 mm” while claim 6 has been amended to recite “a thickness less than at least one of 350 mm, 300 mm and 250 mm.” Similarly, claim 16 has been amended to recite “composed of different

materials selected from the group consisting of formed steel, a composite, and an aluminum honeycomb,” and claim 17 has been amended to recite “different thickness selected from the group of thicknesses consisting of about 155 mm, about 230 mm, about 250 mm, and about 300 mm.”

Claims 1-9 and 14-17 remain pending in the present application. Applicants submit that the pending claims are allowable over the cited prior art. Applicants, therefore, respectfully request that the Examiner withdraw the rejections of and allow the pending claims.

Drawings

The Examiner has objected to the drawings under 37 CFR 1.83(a) for failing to show every feature of the invention specified in the claims. Specifically, the Examiner has objected to the drawings for not showing the limitation of claim 16 of “the upper core an lower core hav[ing] different thicknesses.” *See* Office Action, p. 2. Applicants, however, have amended claim 16 to recite that “the upper sub-assembly and the lower sub-assembly have different thickness.” Existing Figure 2 clearly shows an embodiment in which the upper sub-assembly “A” has a different thickness that the lower sub-assembly “B.” Applicants, therefore, submit that the objection to the drawings is moot in light of the amendment to claim 16 and respectfully request that the Examiner withdraw this objection.

Specification

The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter in claims 15 and 16 under 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Claim 15 recites that “the upper core and the lower core are composed of different materials.” Support for this claim may be found, for example, at page 3, lines 20-21, which discloses that

“[t]he core can be made of a formed steel core or other suitable materials such as composite or aluminum honeycomb.” When considering the material surrounding this disclosure, the term “the core” may refer to the cores in both the upper and lower sub-assemblies. Further, the specification teaches that the core may be composed of different material, including steel, composite, or aluminum. By disclosing this range of materials for use in forming a core, Applicants submit that combining two sub-assemblies having different core materials would be within the ordinary skill of the art. Accordingly, Applicants respectfully request that the Examiner withdraw this objection to the specification.

The Examiner also objected to the specification for not providing a proper antecedent basis for the claimed subject matter in claim 16. Applicants have amended claim 16 to recite that the upper and lower sub-assemblies have different thicknesses. Support for this amendment may be found, for example, in the specification at page 3, line 29 through page 4, line 1, which teaches that “the invention allows different table thicknesses to be produced from a stock of subassemblies of the same thickness or of a limited number of different thicknesses.” Applicants respectfully request that the Examiner withdraw this objection to the specification.

Claim Rejections Under 35 U.S.C. § 112

The Examiner has rejected claims 15 and 16 under 35 U.S.C. § 112, first paragraph, as failing to comply with the written description requirement. As discussed above with respect to the Examiner’s objections to the specification, Applicants submit that the specification describes the claimed material in currently pending claims 15 and 16 in such a way as to reasonably convey to one skilled in the art that Applicants had possession of the claimed material at the time of filing. As noted above, support for the material claimed in claim 15 may be found, for

example, at page 3, lines 20-21. Likewise, support for the material claimed in amended claim 16 may be found, for example, at page 3, line 29 through page 4, line 1. Accordingly, Applicants submit that adequate support for these claims may be found in the specification and respectfully request that the Examiner withdraw these rejections.

The Examiner has rejected claims 7, 8, 15, and 16 under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Applicants have amended these claims as follows. Claim 5 has been amended to recite “in excess of at least one of 310, 460 and 600 mm” while claim 6 has been amended to recite “a thickness less than at least one of 350 mm, 300 mm and 250 mm.” Similarly, claim 15 has been amended to recite “composed of different materials selected from the group consisting of formed steel, a composite, and an aluminum honeycomb,” and claim 16 has been amended to recite “different thickness selected from the group of thicknesses consisting of about 155 mm, about 230 mm, about 250 mm, and about 300 mm.” Applicants respectfully submit that claims 5-6 and 16-17 are allowable as amended and request that the Examiner withdraw the rejections of these claims.

Claim Rejections Under 35 U.S.C. § 102

Claims 1, 3, 14, and 17 are rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,061,541 to Gertel (“Gertel”). Gertel, however, fails to disclose all of the elements of Applicants’ claim 1. For example, Gertel fails to teach or suggest “an intermediate skin [that] is formed by bonding the lower skin of the upper sub-assembly to the upper skin of the lower sub-assembly” as disclosed in Applicants’ amended claim 1. Applicants, accordingly, traverse the Examiner’s rejection.

Gertel discloses an optical table “including a top facing sheet that may be perforated with openings, a bottom facing sheet, at least one layer of rigid corrugated material comprised of valleys and crests, and at least one layer of honeycomb core, and preferably at least one internal stiffening sheet.” *See* Gertel, abstract. In one embodiment, Gertel discloses the use of two honeycomb cores 50 separated by one internal stiffening sheet 60. *See* Gertel, Fig. 5. Moreover, according to Gertel, “[e]ach layer of honeycomb core 50 is preferably separated from any adjacent . . . honeycomb core by internal stiffening sheets 60.” *See* Gertel, col. 4:32-36. Gertel, however, only discloses that the two honeycomb cores 50 in Figure 5 are bonded directly to the single stiffening sheet 60. It fails to disclose that the two honeycomb cores each have their own upper and lower skins. Accordingly, Gertel fails to teach or suggest “an intermediate skin [that] is formed by bonding the lower skin of the upper sub-assembly to the upper skin of the lower sub-assembly” as disclosed in Applicants’ amended claim 1. For at least this reason, Applicants submit that claim 1 is allowable over Gertel. Applicants, therefore, respectfully request that the Examiner withdraw this rejection and allow claim 1.

Further, claims 3, 14, and 17 depend from and include all limitations of claim 1. Accordingly, these claims are allowable over Gertel for at least the same reasons discussed above for claim 1. Applicants, therefore, respectfully request that the Examiner withdraw the rejections of and allow dependent claims 3, 14, and 17.

Claim Rejections Under 35 U.S.C. § 103(a)

Claims 2, 4-9, 15, and 17 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Gertel in view of U.S. Patent No. 5,402,734 to Galpin et al. (“Galpin”). Claim 16 is

rejected under 35 U.S.C. § 103(a) as being unpatentable over Gertel in view of U.S. Patent No. 6,227,515 to Broyles (“Broyles”). Applicants, hereby, traverse these rejections.

Claim 2, 4-9, 15, and 17

Claims 2, 4-9, 15, and 17 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Gertel in view of U.S. Patent No. 5,402,734 to Galpin et al. (“Galpin”). Neither Galpin nor Gertel, however, discloses all of the elements of the pending claims. As discussed above, Gertel fails at least to teach or suggest “an intermediate skin [that] is formed by bonding the lower skin of the upper sub-assembly to the upper skin of the lower sub-assembly” as disclosed in Applicants’ amended claim 1. Galpin fails to correct this deficiency.

According to the Examiner, Galpin allegedly discloses an intermediate skin comprised of “two sheets (49, 23, 41) bonded together.” *See* Office Action, p. 6, lines 8-9. According to the disclosure in Galpin, however, these structures describe “an intermediate layer 23,” (*see* Galpin, col. 4:21-22), having “an upper face 43 and a lower face 45,” (*see* Galpin, col. 4:61-52). Further, “[t]he lower face 45 of the intermediate layer 23 is secured to the upper end 37 of the honeycomb core 21 by a second glue layer 41,” (*see* Galpin, col. 4:62-65), and “the bottom end of each of the cups 25 is secured to the upper face 43 of the intermediate layer 23 by means of a third glue layer 49,” (*see* Galpin, col. 5:10-12). Accordingly, the structure 49, 23, and 41 identified by the Examiner describes a structure, in ascending order, of glue layer 41, intermediate layer 23, and glue layer 49. Accordingly, Galpin fails to teach or suggest at least “an intermediate skin [that] is formed by bonding the lower skin of the upper sub-assembly to the upper skin of the lower sub-assembly” as disclosed in Applicants’ amended claim 1.

Applicants further submit that the Examiner has misinterpreted the term “core” to include cups 25 disclosed in Galpin. Applicants agree with the Examiner that “limitations from the

specification are not read into the claims.” *See* Office Action, mailed April 3, 2006, at p. 4. The MPEP, however, directs that claim terms must be interpreted according to their plain meaning. *See* MPEP § 2111.01 (I). The MPEP defines “plain meaning” of a claim term as “the ordinary and customary meaning given to the term by those of ordinary skill in the art” at the time of invention. *See* MPEP § 2111.01 (II). Thus, according to the MPEP, interpreting a claim term according to the ordinary and customary definition given to it by one skilled in the art differs from reading limitations from the specification into the claims. As applied to the current office action, Applicants have previously emphasized that the term “core” has a specific meaning within the art of optical tables such that one skilled in the art would consider the term “core” to refer to structures having certain vibration damping qualities. *See* Reply dated January 5, 2006, at pp. 4-5. Thus, far from reading a limitation into the claims, as the Examiner suggests, Applicants are merely interpreting the term “core” according the ordinary and customary definition given to this term by those skilled in the art, as directed by the MPEP.

In the current office action, the Examiner describes Galpin as disclosing “an optical table comprising all the elements recited in the above listed claims” including “an upper vibration isolating core 25.” Galpin, however, does not disclose a core structure as element 25, but instead discloses “debris retention structures, such as cups 25.” *See* Galpin, col. 7:22-23. Nowhere does Galpin disclose or suggest that the debris retention structures either serve the same purpose or are made out of materials having similar vibration damping properties as the upper and lower “cores” recited in Applicants claim 1. Further, Applicants submit that one skilled in the art would not include the debris retention structures within the ordinary and customary meaning of the term “core” because the debris retention structures do not necessarily possess the requisite vibration damping qualities of a core structure. For at least these reasons, Applicants submit that

Galpin fails both to disclose all limitations of Applicants' claim 1 and to correct the deficiencies of Gertel. Applicants, therefore, submit that claim 1 is allowable over Gertel in light of Galpin.

Additionally, claims 2, 4-9, 15, and 17 depend from and include all limitations of claim 1, and are allowable over Gertel in view of Galpin for at least the same reasons discussed above for claim 1. Applicants, therefore, respectfully request that the Examiner withdraw the rejections of and allow dependent claims 2, 4-9, 15, and 17.

Claim 16

Claim 16 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Gertel in view of U.S. Patent No. 6,227,515 to Broyles ("Broyles"). Neither Broyles nor Gertel, however, discloses all of the elements of the pending claims. As discussed above, Gertel fails at least to teach or suggest "an intermediate skin [that] is formed by bonding the lower skin of the upper sub-assembly to the upper skin of the lower sub-assembly" as disclosed in Applicants' amended claim 1. Broyles fails to correct this deficiency.

Broyles discloses "a platform, or tabletop, that is useful for mounting and supporting items . . . wherein the overall mass of the platform may be varied as desired." *See* Broyles, col. 3:12-15. According to Broyles, the platform includes "an upper surface 20, a lower surface 30, and an intervening side wall 40, that , together with the upper and lower surfaces, 20 and 30, defines an interior cavity 50." *See* Broyles, col. 3:18-22. Further, "an intermediate surface 25 partitions the interior cavity 50 into two sections, a bottom section 52 and a top section 54." *See* Broyles, col. 3:62-64. Broyles describes the intermediate surface as sealing the bottom section 52 to allow it to contain fluid. *See* Broyles, col. 3:64-66. Nowhere, however, does Broyles disclose the bottom section as containing a core having an upper skin.

Boyles additionally fails to disclose an upper sub-assembly having a lower skin. While top section 54 in Broyles may contain damping material 27 with a cloth lower surface (*see* Broyles, col. 5:26-30, Fig. 2), Applicants submit that the ordinary and customary meaning of the term “skin” to one skilled in the art would not include the cloth lower surface of damping material 27 disclosed in Broyles. Instead, Applicants submit that the plain meaning of the term “skin” to one skilled in the art includes hardened metallic or composite surfaces which are stiff, not a cloth layer. Accordingly, Broyles fails at least to teach or suggest “an intermediate skin [that] is formed by bonding the lower skin of the upper sub-assembly to the upper skin of the lower sub-assembly” as disclosed in Applicants’ amended claim 1. For at least this reason, Applicants submit that Broyles fails to correct the deficiencies in Gertel and that claim 1 is allowable over Gertel in light of Broyles.

Further, claim 16 depends from and include all limitations of claim 1. Accordingly, this claim is allowable over Gertel in view of Broyles for at least the same reasons discussed above for claim 1. Applicants, therefore, respectfully request that the Examiner withdraw the rejection of and allow dependent claim 16.

CONCLUSION

Applicant respectfully requests that this Amendment under 37 C.F.R. § 1.116 be entered by the Examiner, placing claims 1-9 and 14-17 in condition for allowance. Applicant submits that the proposed amendments of claims 1-9 and 14-17 do not raise new issues or necessitate the undertaking of any additional search of the art by the Examiner, since all of the elements and their relationships claimed were either earlier claimed or inherent in the claims as examined. Therefore, this Amendment should allow for immediate action by the Examiner.

Furthermore, Applicant respectfully points out that the final action by the Examiner presented some new arguments as to the application of the art against Applicant's invention. It is respectfully submitted that the entering of the Amendment would allow the Applicant to reply to the final rejections and place the application in condition for allowance.

Finally, Applicant submits that the entry of the amendment would place the application in better form for appeal, should the Examiner dispute the patentability of the pending claims.

In view of the foregoing remarks, Applicant submits that this claimed invention, as amended, is neither anticipated nor rendered obvious in view of the prior art references cited against this application. Applicant therefore requests the entry of this Amendment, the Examiner's reconsideration and reexamination of the application, and the timely allowance of the pending claims.

Please grant any extensions of time required to enter this response and charge any additional required fees to Deposit Account 06-0916.

Respectfully submitted,

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